

**REMARKS**

By this Amendment, claims 2 and 13 are cancelled without prejudice or disclaimer to filing in a future application, and claims 1 and 12 are amended. Thus, claims 1, 3-12 and 14-18 are pending in the present application. Applicant respectfully requests withdrawal of the rejections and allowance of the claims.

**I. Formalities**

Applicant thanks the Examiner for consideration of the Information Disclosure Statement filed on July 21, 1999, as indicated by the initiated Form PTO-1449. Applicant also thanks the Examiner for indication of priority under 35 U.S.C. § 119.

**II. Claims 1, 3-12 and 14-18 are novel**

Claims 1-18 stand rejected under 35 U.S.C. § 102(e) due to alleged anticipation by Davidsson et al. (U.S. Patent No. 6,247,160, hereafter “Davidsson”). As shown in the foregoing amendments, claims 2 and 13 have been cancelled, thus rendering the rejection of those claims moot. Applicant respectfully submits that Davidsson fails to disclose all of the claimed combination of features recited in pending claims 1, 3-12 and 14-18, as required for an anticipation rejection under §102. Thus, Applicant respectfully requests withdrawal of the rejection and allowance of the pending claims.

As illustrated in Figure 1 and disclosed at column 4, lines 13-55, Davidsson discloses a multi-fault tolerant majority voting circuit, including a level control unit 13 that receives clock signals CP1\_x from clock modules CLM0, CLM1, CLM2 and control signals CP1\_xERR from clock monitors 12A-C. Each of the clock monitors 12A-C detects whether the corresponding incoming clock signal CP1\_x is present. The level control unit 13 outputs clock signals CP1\_0L,

CP1\_1L, CP1\_2L to a majority voter 14, which performs a conventional majority voting operation.

The Examiner asserts that the majority voter 14 of Davidsson corresponds to the claimed second element of the present invention. However, Applicant respectfully submits that the majority voter 14 of Davidsson does not use the results (i.e., the control signals CP1\_xERR) detected by the clock monitors 12A-C as objects for a majority voting operation. Applicant also respectfully submits that the detected results CP1\_xERR of Davidsson are used in the level control unit 13 to select which of the clock signals CP1\_x should be forwarded to the majority voter 14.

Applicant respectfully submits that the detected results of Davidsson are not themselves objects for the majority voting operation, but are a basis for omitting a faulty clock signal from the clock signals CP1\_x, which are not diagnosis results. The majority voter 14 merely performs a non-diagnostic majority voting operation on the clock signals CP1\_0L, CP1\_1L, CP1\_2L, as objects from the level control unit 13. Since the clock signals CP1\_0L, CP1\_1L, CP1\_2L are not diagnosis results but merely clock signals, Applicant respectfully submits that the majority voter 14 cannot determine which of the clock signals is faulty based on diagnosis results.

Applicant respectfully submits that Davidsson fails to disclose (or even suggest) all of the claimed combination of features recited in independent claims 1 and 12. For example, but not by way of limitation, Applicant respectfully submits that Davidsson fails to disclose a second element which inputs **diagnosis results** from said first elements and determines whether or not there is a faulty first element in said first elements based on **majority logic of said diagnosis results**, as recited in independent claim 1, or determining whether or not there is a faulty first

element in said first elements based on majority logic of diagnosis results from said first elements, as recited in independent claim 12. Applicant respectfully submits that the majority voter 14 of Davidsson is clearly distinguishable from the second element or the determining step recited in independent claims 1 and 12, respectively.

As noted above, Davidsson does not disclose inputting diagnosis results from first elements, as recited in claims 1 and 12, as the clock signals of Davidsson cannot be considered to be the diagnosis results recited in claims 1 and 12. Thus, Applicant respectfully requests withdrawal of the rejection under §102.

Further, Applicant respectfully submits that the presently claimed invention can distinguish a faulty element, which has a minor diagnosis result, from normal elements, based on the majority logic of diagnosis results of the first elements. As disclosed at column 4, lines 50-55 of Davidsson, the majority voter 14 performs conventional majority voting and thus does not apply majority voting to the diagnosis results recited in claims 1 and 12. For further support of Applicant's position, Applicant directs the Examiner to column 4, lines 13-50 of Davidsson.

Claims 3-11 depend from independent claim 1, and claims 14-18 depend from independent claim 12. Applicant respectfully submits that the dependent claims are allowable for at least the same reasons as the independent claims from which they depend. Thus, Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

### **III. Conclusion**


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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AMENDMENT UNDER 37 C.F.R. § 1.111

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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**APPENDIX**

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**Claims 2 and 13 are canceled without prejudice or disclaimer.**

**The claims are amended as follows:**

1. (Amended) A semiconductor chip comprising:  
a plurality of first elements each of which diagnoses itself; and  
a second element which inputs diagnosis results from said first elements and determines whether or not there is a faulty first element in said first elements based on majority logic of said diagnosis results.

12. (Amended) A method which is performed in a semiconductor chip including a plurality of first elements, comprising:  
diagnosing said first elements each by itself; and  
determining whether or not there is a faulty first element in said first elements based on majority logic of diagnosis results from said first elements.